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Assessment of Patient Condition by Physical Examination of the Chest and Thoracic Region

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Opinion Article

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ABOUT THE STUDY

Physical examination of the chest is crucial element of respiratory system assessment. Together with the medical history it provides an important aid in determining the correct diagnosis, often before the laboratory and instrumental examinations are available. Similarly to what is done for their parts of the body, chest examination includes 4 phases such as inspection. Palpation, percussion and auscultation. The examination should be carried out in a quiet well light room, no instruments are required but a phonendoscope. A marking pen and a tape measure can help when pathological changes are observed. For every section of the chest examination right and left findings should be always compared. Natural landmarks and artificial lines are important in order to locate organs within the chest and to document the location of respiratory assessment findings.

The Inspection consists in a methodological accurate and complete observation of the patient. In a patient with suspected respiratory disease, it should not be limited t chest, where as it should include the evaluation of some general aspects such as the appearance or expression of the face of the patient the preferred posture the use of accessory respiratory muscles the present of nasal flaring cyanosis. At inspection, the general shape and symmetry of the thorax must be evaluated. The patient should be sited, if possible without support, unclothed to the waist. Normally, the ratio between the sagittal diameter and coronal diameter of the thorax ranges between 0.5 to 0.7. An increase in the ratio is seen in people with hyperkyphosis. It is also observed in subjects with barrel chest, where the ribs are horizontal and the increased anteroposterior diameter results in cylindrical shape of the thorax. Barrel chest can be feature of severe emphysema, nut also common in elderly people with weight loss and increased thoracic kyphosis. Asymmetry of the thorax is frequently due to vertebral deformities that cause an enlargement of the side of vertebral convexity with lung hyperexpansion and a reduction of lung volume. Other thorcic deformities include Pectus carinatum, pectus excavatum and flail chest.

In pectus carinatum the chest deformity is characterised by a protrusion of the distal portion of the sternum with increased anteroposterior diameter and reduction of the vertical diameter. The ribs adjascent to the protruding chest are depressed. This condition can be congenital but also seen in rachitic patients.

Pectus excavatum is a condition caused by the abnormal growth of ribs and sternum causing a concavity most evident at the distal sternum. It is the most common congenital chest wall abnormally.

Flail chest is characterized by a paradoxical inward movement of a section of the thorax during inspiration and outward movement during expiration. It is due to severe blunt trauma that causes both posterior and anterior fractures of three or more ribs.

Bulging or retraction of the intercostal spaces should be recorded. Uniform bulging of one side of the thorax can be seen in patients with massive pleural effusion, pneumo thorax or severe emphysema. Uniform retraction of one of the thorax may be due to fibrothorax, atelectasis or may be the consequence of demolitive lung surgery.